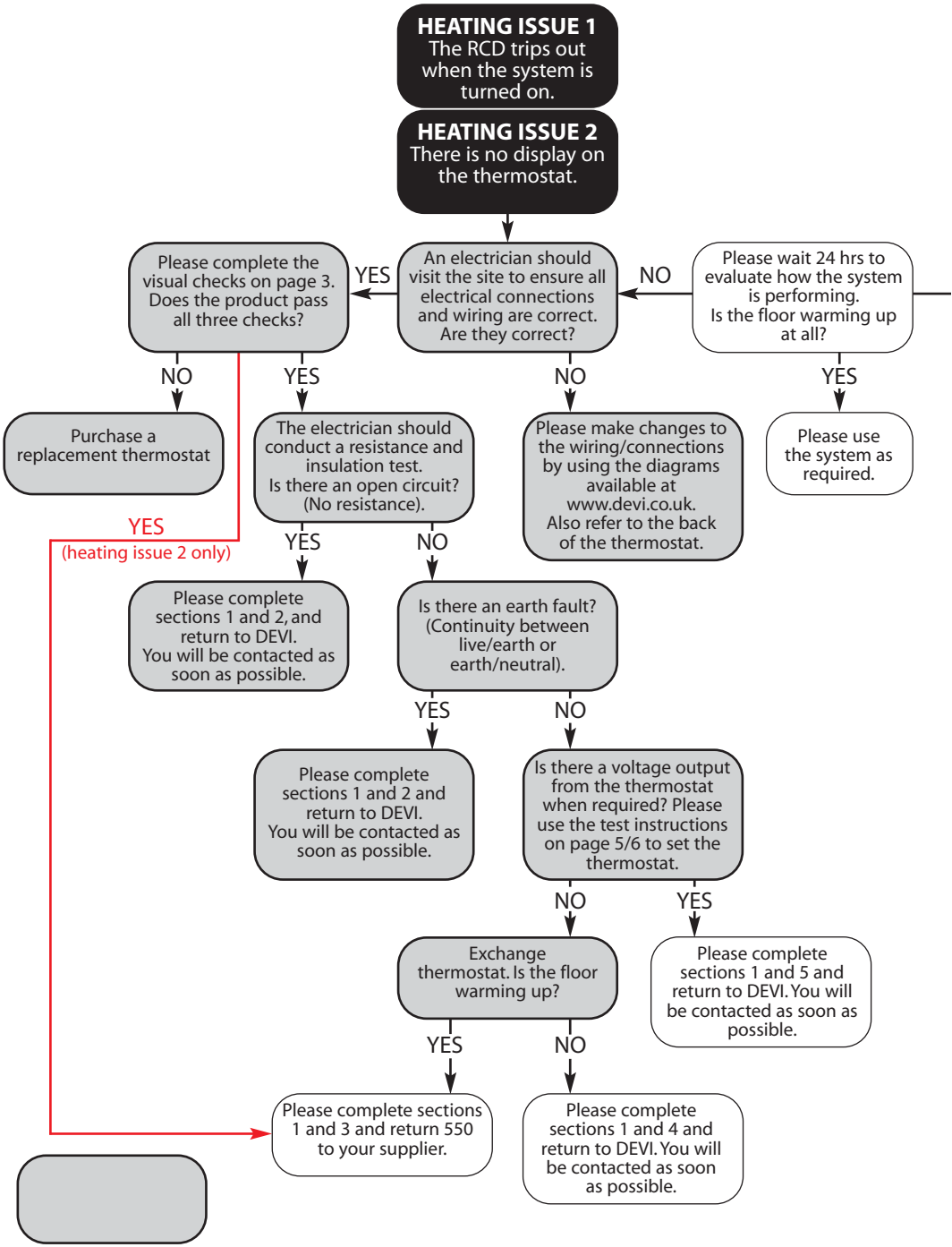
DEVI underfloor heating systems

A trouble shooting guide

www.devi.co.uk

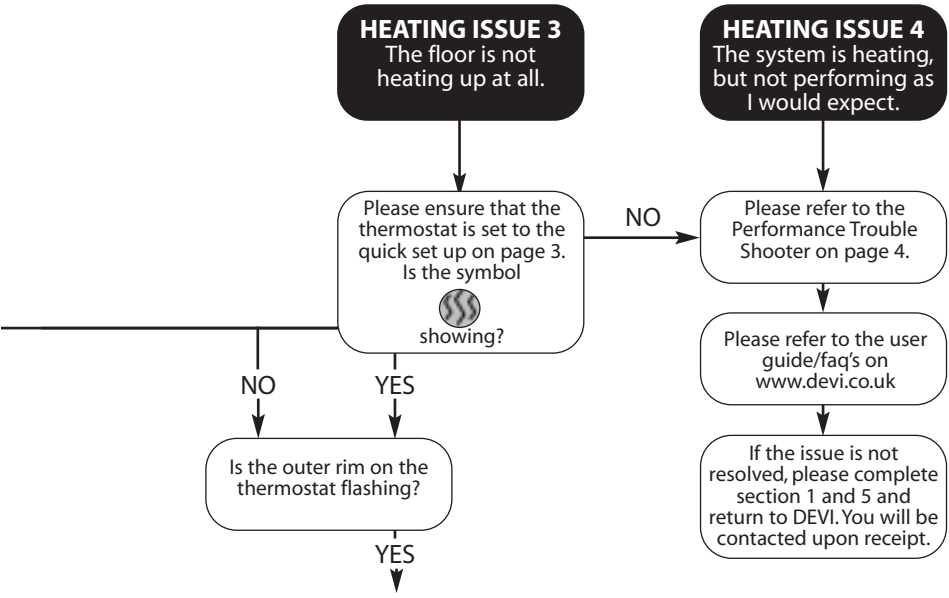
DEVI™
Member of the Danfoss Group

Please follow the step-by-step instructions and


HEATING ISSUE 1
The RCD trips out when the system is turned on.
HEATING ISSUE 2
There is no display on the thermostat.
An electrician should visit the site to ensure all electrical connections and wiring are correct. Are they correct?
YES
NO
Please complete the visual checks on page 3. Does the product pass all three checks?
Please wait 24 hrs to evaluate how the system is performing. Is the floor warming up at all?
NO
YES
NO
YES
Purchase a replacement thermostat
The electrician should conduct a resistance and insulation test. Is there an open circuit? (No resistance).
Please make changes to the wiring/connections by using the diagrams available at www.devi.co.uk. Also refer to the back of the thermostat.
Please use the system as required.
YES
(heating issue 2 only)
YES
NO
Please complete sections 1 and 2, and return to DEVI. You will be contacted as soon as possible.
Is there an earth fault? (Continuity between live/earth or earth/neutral).
YES
NO
Please complete sections 1 and 2 and return to DEVI. You will be contacted as soon as possible.
Is there a voltage output from the thermostat when required? Please use the test instructions on page 5/6 to set the thermostat.
NO
YES
Exchange thermostat. Is the floor warming up?
Please complete sections 1 and 5 and return to DEVI. You will be contacted as soon as possible.
YES
NO
Please complete sections 1 and 3 and return 550 to your supplier.
Please complete sections 1 and 4 and return to DEVI. You will be contacted as soon as possible.

*A qualified electrician must carry out all instructions within a shaded box.

complete the applicable forms where required


HEATING ISSUE 3
The floor is not heating up at all.
HEATING ISSUE 4
The system is heating, but not performing as I would expect.
Please ensure that the thermostat is set to the quick set up on page 3. Is the symbol
showing?
NO
Please refer to the Performance Trouble Shooter on page 4.
Please refer to the user guide/faq's on www.devi.co.uk
If the issue is not resolved, please complete section 1 and 5 and return to DEVI. You will be contacted upon receipt.
NO
YES
Is the outer rim on the thermostat flashing?
YES

Read the following fault number on the thermostat and follow instructions.

No	Error	Action
2	Configured as a master, but another master is detected	Thermostat incorrectly set during configuration, see step 2, on page 5 and 6. Set to ALO.
3	Configured as a slave but cannot find any master unit	Thermostat incorrectly set during configuration, see step 2, on page 5 and 6. Set to ALO.
4	The thermostat has switched itself off, due to overheating	Call an elecrician, (let the thermostat cool for a period then enter basic set-up to leave error mode). Check all wiring, (diagrams on back of thermostat and on www.devi.co.uk) and the visual checks on page 4.
5	Sensor fault. Floor sensor short circuit	Call an electrician (Have an authorised electrician check the floor sensor wiring and obtain a resistance reading of 10K - 24K Ohms). The floor sensor may have to be re-wired or replaced.
6	Sensor fault. Floor sensor short circuit	Call an electrician (Have an authorised electrician check the floor sensor wiring and obtain a resistance reading of 10K - 24K Ohms). The floor sensor may have to be re-wired or replaced.
7	Clock is not set	Set the clock (see page 11 of the devireg 550 user guide, This can be downloaded on www.devi.co.uk).

If the error persists, please complete sections 1 and 5 and return to DEVI.

devireg 550 test instructions for the devimat floor warming system or areas where the thermostat is situated outside of the room (ie. wet areas)

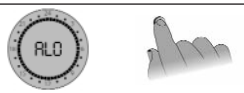
Please follow these instructions to ensure that the thermostat is set-up correctly in order to provide power to the heating elements. NB. If the thermostat is displaying CODE initially you will ONLY be presented with step 1 and step 4; set these as described below. Once you have either completed steps 1 and 4, or the controller is displaying something other than CODE, you must press and hold the button until the word CODE is displayed and follow the steps below. To reset the thermostat, press and hold the button until CODE is displayed. Please note that the setup for older versions can be seen in RED.

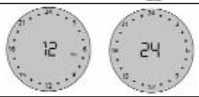
1	**Setup code**	Rotate button to select code 0044 and then press button once.	
2	**Operating mode**	Rotate button to select ALO and then press the button	
3	Temperature readout **Adaptive mode**	Rotate button to select °C and then press button Rotate button to select AdAP and then press button	
4	**Sensor selection**	Rotate button to select 'FS' to activate the floor sensor, then press button. This is a floor sensor only selection.	
5	**Maximum floor temperature selection**	At 'nt' rotate button to select either of the following temperature selection, maximum floor temperatures, then press button. System / Floor construction / Tiles / Timber / Carpet devimat / Timber base / 29-32°C / 27-32°C / 29-32°C devimat / Concrete base / 40-45°C / 29-32°C / 40-45°C	
6	**Off periods**	LO should be displayed, you should rotate the dial to select -30°C then press the button.	
7	**Clock display**	Rotate the button to select clock display as either 24 hours or 12 hours AM/PM.	
8	**Save settings**	Press button once.	
9	**Setting the clock**	Press and hold button. The display now shows the time and day (number 1 represents Monday, number 7 is Sunday). Rotate the dial to show the correct time and day of the week and then press the button to save the correct time setting.	
10	**Manual mode**	Press the button so there is a black circle around the outside of the digital display. The thermostat is now in manual mode.	
11	**Test temperature**	For test purposes, turn the setting up to 10 until is displayed. This may take a few minutes to display. This ensures that the thermostat is sending output to the heating element. This temperature setting is simply for test purposes. When it is apparent that the floor is heating, lower the temperature immediately. This should be evaluated over a 24 hour period).	

NB. If the thermostat is flashing at any time, please revert to the Trouble Shooter on page 2.

devireg 550 test instructions for the deviheat total heating system

Please follow these instructions to ensure that the thermostat is set-up correctly in order to provide power to the heating elements. If the thermostat is displaying CODE initially you will ONLY be presented with step 1 and step 4; set these as described below. Once you have either completed steps 1 and 4, or the controller is displayng something other than CODE, you must press and hold the button until the word CODE is displayed and follow the steps below. To reset the thermostat, press and hold the button until CODE is displayed. Please note that the setup for older versions can be seen in RED.

<table>
<tr><td>1</td><td>Setup code</td><td>Rotate button to select code 0044 and then press button once.</td><td> </td></tr>
<tr><td>2</td><td>Operating mode</td><td>Rotate button to select ALO and then press the button once.</td><td>  </td></tr>
<tr><td>3</td><td>Temperature readout
Adaptive mode</td><td>Rotate button to select ºC and then press button.

Rotate button to select AdAP and then press button</td><td></td></tr>
<tr><td>4</td><td>Sensor selection</td><td>Rotate button to select rFS to activate the floor sensor, then press button. This is a room and floor sensor selection.</td><td> </td></tr>
<tr><td>5</td><td>Maximum floor temperature selection</td><td>At nt rotate button to select either of the following temperature selection, maximum floor temperatures, then press button.
<table>
<tr><td>System</td><td>Floor construction</td><td>Tiles</td><td>Timber</td><td>Carpet</td></tr>
<tr><td>Cable</td><td>Cable screed</td><td>40-45ºC</td><td>36ºC</td><td>40-45ºC</td></tr>
<tr><td>Cable</td><td>Timber suspended</td><td>36ºC</td><td>36ºC</td><td>36ºC</td></tr>
</table></td><td> </td></tr>
<tr><td>6</td><td>OFFS</td><td>This should be set to 0.0, if this is the case, press the button to continue. If not, adjust setting and continue.</td><td></td></tr>
<tr><td>7</td><td>Off periods</td><td>LO should be displayed, you should rotate the dial to select -15 degrees C then press the button.</td><td> </td></tr>
<tr><td>8</td><td>Clock display</td><td>Rotate the button to select clock display as either 24 hours or 12 hours AM/PM</td><td>  </td></tr>
<tr><td>9</td><td>Save settings</td><td>Press button once.</td><td> </td></tr>
<tr><td>10</td><td>Setting the clock</td><td>Press and hold button. The display now shows the time and day (number 1 represents Monday, number 7 is Sunday). Rotate the dial to show the correct time and day of the week and then press the button to save the correct time setting.</td><td> </td></tr>
<tr><td>11</td><td>Manual mode</td><td>Press the button. A black circle around the outside of the digital display should be displayed. The thermostat is now in manual mode.</td><td> </td></tr>
<tr><td>12</td><td>Test temperature</td><td>For test purposes, turn the temperature up to 35ºC until is displayed. This may take a few minutes. This ensures that the thermostat is sending output to the heating element. This temperature setting is simply for test purposes. When it is apparent that the floor is heating, lower temperature immediately. This should be evaluated over a 24 hour period).</td><td> </td></tr>
</table>

NB. If the thermostat is flashing at any time, please revert to the Trouble Shooter on page 2.

Visual checks

These instructions will help to identify whether the fault with your underfloor heating system has been caused due to mis-installation/not following user instructions.

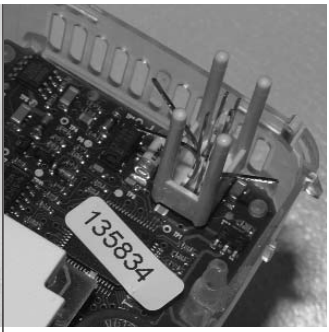
If these VISUAL checks are carried out correctly, the thermostat may not have to be returned to DEVI, which will save you time.

VISUAL CHECK ONE
Cracked LCD display

This fault is caused when someone attempts to remove the front cover of the thermostat. This is normally removed by carefully pushing down on the plastic tab in the top central grill. If care is not taken, the implement used to push down the tab slips and damages the display, causing it to crack. This damage can also be caused by over-tightening of the screws.

VISUAL CHECK TWO
Blackening at the rear of the thermostat

This fault is caused when the electrics entering the back of the thermostat are stripped back too far, exposing the live conductors. When this happens, if these exposed wires cross, they short and cause the fuse to blow and the back of the controller to be blackened.



VISUAL CHECK THREE
Bent pins

Remove the front cover and inspect the back of the LCD display. At the back are a set of gold connector pins, these leave the factory straight, if they are bent or distorted then a heavy hand has been used to plug the display into the base of the thermostat.

In all three examples, the thermostat would not be covered by the DEVI Warranty.
In this case a new thermostat should be purchased.

Performance trouble shooter

HEATING ISSUE	POSSIBLE CAUSES	ACTION
The system is not heating up to the required temperature, or there is no difference in performance between settings 6 and 10.	The floor temperature has exceeded the maximum temperature.	Check the maximum floor temperature is set correctly, (see step 5 on pages 6 and 7).
		Check the positioning of the floor sensor is correct. (Floor sensor should be completely in the conduit either parallel to deviheat element or directly underneath devimat.)
	With devimat systems there may not be enough output to heat the area.	Increase the available heating output within the area by adding a supplementary heating source.
The system is heating outside the time period. The time period is indicated by the black segments around the dial. (This may result in high running costs).	The temperature has lowered to the set LO amount.	Check the LO set-back is set correctly - -15 for deviheat, -30 for devimat.
		Reduce operating temperatures to the following: deviheat -21°-24°C, and devimat (and all operating on floor sensor only - wet areas, 4-7°C)
	The system will aim to reach the displayed temperature for the time set. (devireg intelligence based on previous performance).	Set the timer to come on at the time when the heat is required, (not before).
	The system is in manual mode.	Ensure that the time periods required are displayed on the thermostat and all segments that are outside the intended time period are clear.
The floor is heating up at variable temperatures across the whole floor.	It is not possible for the element to heat up at variable rates. This is the result of an external influence on the system. Eg. Different underlying floor or different floor covering.	Confirm that the floor structure is standard throughout the floor/build.
		Confirm that there is a heating element beneath the area in question and that the element has been installed at the same Wm^2 density across the floor.
The floor is heating above the temperature required. (This may result in high running costs).	The air/floor sensors are not reading the correct temperature.	Check the positioning of the sensors. (Floor sensor should be completely within the conduit, either parallel to the heating element or directly underneath the devimat. Air sensor should be positioned away from any external factors that influence the air temperature surrounding the thermostat and therefore causing the system to switch off early.
	This may be a fault caused by a fault with the electrical connections.	Check electrical connections to the thermostat (page 11 of the user guide) and complete all visual checks on page 4.
The thermostat will not switch off	The thermostat will only switch off in manual mode.	Press and hold the button so that all segments around the outside are filled, then quickly turn the dial anti-clockwise.

If you are still encountering a heating issue, please complete section 1 and 5 and then return to DEVI. Please provide description of all checks carried out, eg. position of floor sensor, checking of maximum floor temperature etc. You will then be contacted as soon as possible.

The DEVI warranty

You have purchased a **deviheat** system, which we are certain, will a high level of comfort and economy in your home. **deviheat** provides a complete heating solutions with **deviflex** heating cables or **devimat** heating mats, **devireg** thermostats and **devifast** fixing strip.

If, however, contrary to all expectations, a problem should occur with your heating system, we at **DEVI**, with manufacturing units in Denmark, are, as European Union suppliers, subject to general product liability rules, as stated in Directive 85/374/CEE and all relevant national laws which implies that:

DEVI provides a warranty for **deviflex** heating cables and **devimat** heating mats for a 10 year period and all other **DEVI** Products for a 2 year period against defects in material and production.

The obligation of DEVI will be to repair or supply a new unit, free of charge without secondary charges linked to repairing the unit. In case of defective devireg thermostats, DEVI reserves the right to repair the unit free of charge and without unreasonable delay to the customer.

The DEVI warranty only covers connections made by authorised electricians and installations performed in accordance with the installation instruction and does not cover faults caused by incorrect designs supplied by others, incorrect installation or any subsequent damage, that may occur.

If **DEVI** is required to inspect or repair any defects caused by any of the above, then all work will be fully chargeable. **The DEVI warranty** is void, if payment of the equipment is in default.

At all times, **DEVI** will respond honestly, efficiently and promptly to all queries and reasonable requests from our customers.

The above mentioned warranty concerns product liability whereas matters in relation to legislation on sale of goods shall be referred to national law.

N.B Unit = DEVI Installed equipment

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www.devi.co.uk

THESE FORMS CAN BE COMPLETED AT www.devi.co.uk/troubleshooter

Section 1 - your details

Failure to complete all relevant fields and information to DEVI may result in a delay.

Name:	Company:

Company Address:

Post code:

Customer services Tel.	Co. Tel:
Mobile:	Fax:
E-mail address:	

*Quote number of project (if applicable):

Your reference:

Site/property contact name:

Tel/Mob:

Fax:

E-mail:

Full site address:

Post code:

Postcode:

*Plot number (at time of build):

*Development name (at time of build:

* Please ignore if the thermostat was purchased through a retail outlet.

Section 2

DEVI can locate and repair the damaged heating element. On receipt of this form, DEVI will issue a quote and a date for this service. In the unlikely event that the damage of the heating element is due to a manufacturing fault, the standard DEVI warranty applies. Please complete as accurately as possible.

Product info	Please tick	Mat size or cable
devimat timber (100Wm2)		
devimat concrete (150Wm2)		
deviflex heating cables		

Cable/mat checklist	YES/NO	Resistance (Ohms)
Continuity between live-neutral		
Continuity between live-earth		
Continuity between neutral-earth		
Continuity between earth-earth		

Section 3

Product type: **Date of purchase/quote number:**

The thermostat may need to be returned for testing. Please confirm that the following have been tested by ticking the boxes.

	YES	NO
1. I have set the thermostat in accordance to the instructions within the quick set-up guide supplied and the following symbol is showing and the outer-rim is not flashing.	☐	☐
2. The thermostat has been tested by a competent electrician and it is confirmed that there is **NO** output coming from the thermostat.	☐	☐
3. The visual checks on page 3 have been carried out by a qualified electrician.	☐	☐
4. All electrical wiring/connections are in accordance with the wiring diagrams shown on www.devi.co.uk and this has been confirmed by a competent electrician.	☐	☐

If any of the boxes are NOT ticked then refer to the Devi trouble shooter on page and .
If all the boxes have been ticked and checks completed thenplease return your thermoatat to your supplier.

Signed: …….. Date: ……

Please return the product with this form to your supplier.

Section 4

Please confirm the following have been tested by ticking the boxes.

	YES	NO
1. I have set the thermostat in accordance to the quick set-up guide supplied on page and and the following symbol is showing and the outer-rim is not flashing.	☐	☐
2. All electrical wiring/connections are in accordance with the wiring diagrams on the back of the thermostat (or as shown on www.devi.co.uk) and this has been confirmed by a competent electrician.	☐	☐
3. The circuit in the heating element is complete and it has been confirmed that there is not an earth fault (no resistance between live/earth or neutral/earth).	☐	☐
4. The thermostat has been tested by a competent electrician and it is confirmed that there is output coming from the thermostat.	☐	☐

5. The visual checks on page 4 have been carried out by a competent electrician.

If any of the boxes are NOT ticked then refer to the Devi trouble shooter on page 2 and 3.
If all the boxes have been ticked and checks completed then please now complete section 5 to give extra detail of the heating issue you are encountering, then return the forms to Devi. You will be contacted as soon as possible.

Signed: …….. Date: ……

Please now complete section 5, to give extra detail of the heating issue you are encountering and return forms to DEVI, you will be contacted as soon as possible.

Section 3

Please give a detailed description of the heating issue you are encountering:

Please return this form to DEVI, you will be contacted as soon as possible.
DEVI Electroheat Ltd. • Brickfields Business Park • Woolpit, Suffolk IP30 9QS

F: 0845 434 9489
technical@devi.co.uk
www.devi.co.uk/troubleshooter